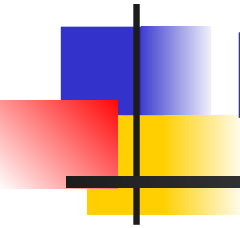


Backpacking

The Gear Head Approach

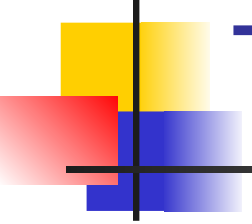


Less is more...or less

The Philosophy of the Gear
Head

Ultralight vs. Ultraheavy

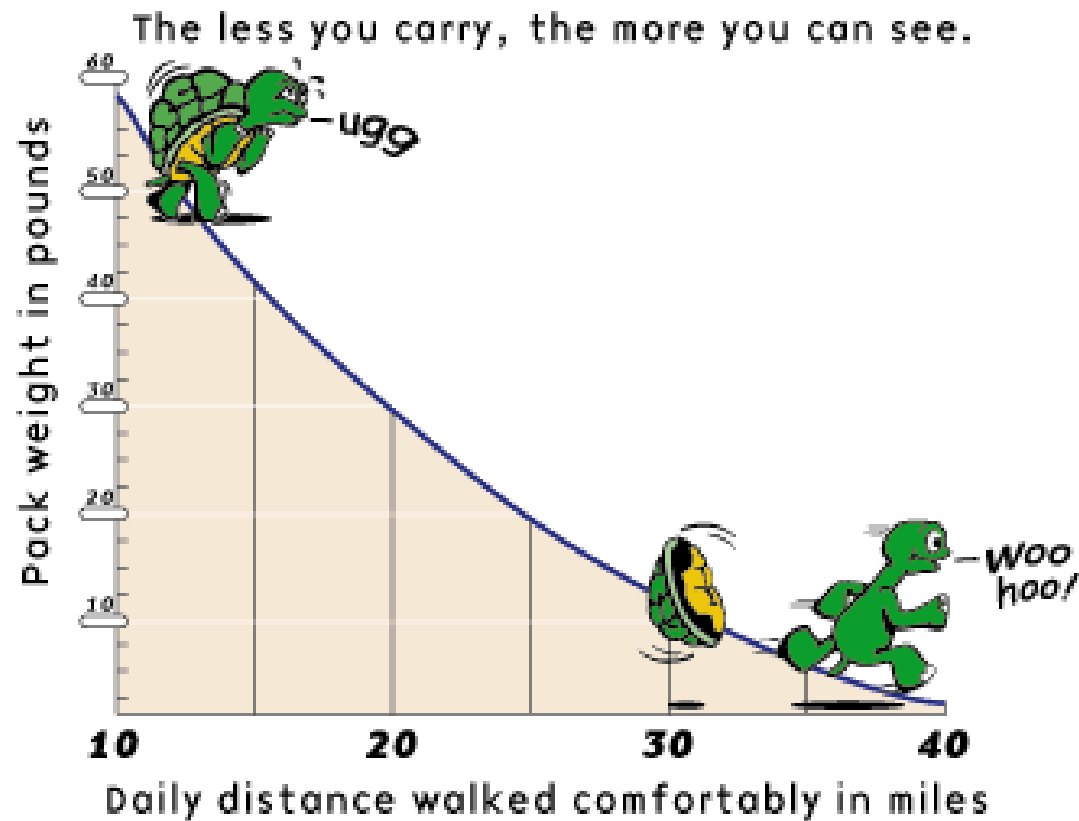


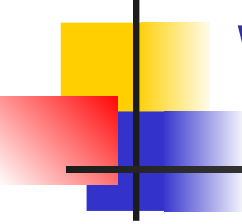


The Pack Weight Spectrum

- **Base Packweight (without food or water)**
 - Ultralight 0-12 lbs
 - Lightweight 12-25 lbs
 - Middleweight 25-35 lbs
 - Heavyweight 35-55 lbs
 - Ultraheavy 55+ lbs

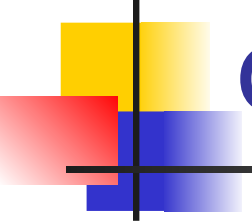
Pack Weight





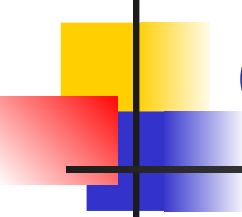
What's Right for You?

- Trail or Camp comfort?
 - Lighter Weight
 - Long trail days, health problems, comfortable with less
 - If I need it and don't have it, than I don't need it
 - Heavier Weight
 - Shorter trail days, long time periods in camp, more creature comforts
 - Better to have it and not need it



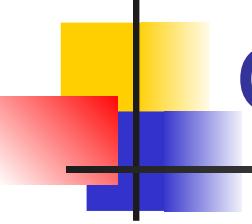
Top 10, err...6, ways of cutting back

- Concentrate on Heavy Items First
 - Pack, Tent, and Sleeping Bag before Toothbrush, Flashlight, and Spoon
 - Be a weight conscious buyer
 - Look for the 4lb pack instead of the 7lb one, 3lb sleeping bag instead of the 4lb one, etc
 - Share heavier items, like tents, with a partner



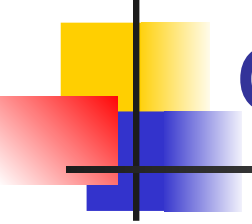
Top 10, err...6, ways of cutting back

- Leave Unnecessary gear behind
 - When you lighten an item you can reduce its weight 20%-90% but when you eliminate it you reduce it by 100%
 - Eliminate gadgets such as 67 function multitools, cd players, epic novels, and lawn chairs



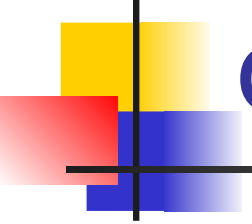
Top 10, err...6, ways of cutting back

- Select lightest and most functional gear
 - Look at the small items such as flashlight, compass, hygiene kit, and first aid kit, for ways to cut back. The small stuff adds up.
 - Select gear that can be used for two purposes such as using your pack for a camp chair or cooking pot as your bowl.



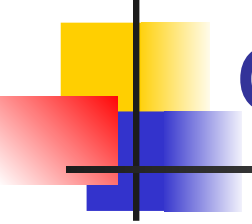
Top 10, err...6, ways of cutting back

- Cutting back...literally
 - Don't be afraid to cut or remove extraneous parts of your pack or other gear.
 - Remove unneeded features including pack lids, unusable pages from guide books, and most importantly any trash that can be eliminated before the trip



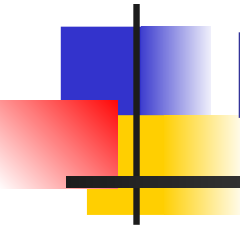
Top 10, err...6, ways of cutting back

- Tabulate
 - Use a small postal scale and bathroom scale to weigh all of your gear. Keep a list of these weights and concentrate on the heaviest items. This list will help you account for everything you carry and give a measurable prospective on your gear



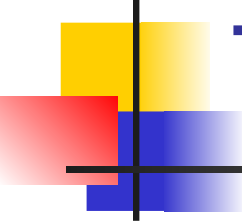
Top 10, err...6, ways of cutting back

- Pick, Choose, Reject
 - Using your weight list and stats, go over everything and see what you don't need, then eliminate.
 - What is necessary and unnecessary will depend on your comfort level and the type of trekking you are doing.



Equipment

The Art of the Gearhead



The Backpack



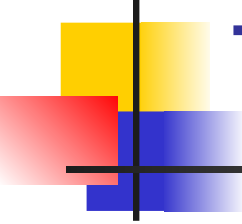
- Three types
 - External Frame
 - The classic backpack design
 - A pack bag attached to a metal or composite frame
 - More stable and better weight distribution/carry
 - Cheapest and most expensive
 - More packing options with the external frame
 - More Adjustable
 - For trail hiking only
 - Tends to be a heavier option

The Backpack

■ Internal Frame

- Frame is sewn into the packbag
- Less stable but more maneuverable
- Better for more technical trails, bushwacking, or climbing
- Can be a lighter weight option
- Usually middle cost to expensive
- Protects gear better
- Less adjustable but more of a custom fit



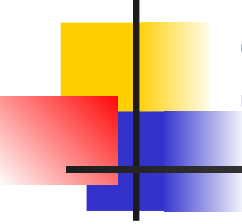


The Backpack

- Frameless Rucksack

- Mostly used for daypacks but now becoming an ultralight option
- Has no frame, usually a rolled sleeping pad is used as an pseudo-frame
- Weight is usually 0-3lbs
- Price is usually under \$100
- Can only carry up to 25 lbs comfortably
- Can only carry a minimal amount of gear





Shelter

- Two Basic Types

- Tents



Moderately heavy (Avg. 5-6 lbs)

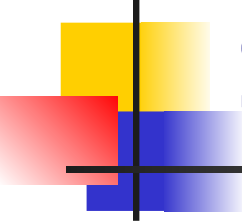
Usually easy to set up

Designed to weather storms

Can be free standing

Usually has some form of bug netting for ventilation





Shelter

- Types of tents

- 3 season-appropriate for everything except snow
- 4 season-designed to support tent even under heavy snow
- Double Wall-standard tent body and rainfly
- Single Wall-tent body is waterproof, doubling as rainfly
- Bivy Sack-waterproof sleeping bag cover that can cover entire bag and can have up to two poles



Shelter

■ Tarps

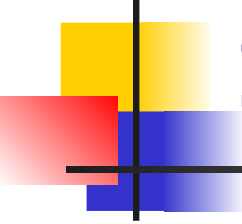
- Lightweight (<1-3 lbs)
- Usually cheap
- Can use trekking poles, poles, or natural objects for set up
- Ventilates well
- Room for many +gear
- Trickier to setup



Shelter

- Must find a spot with good drainage
- Can work well in storms
- Can come in a variation of hybrids
- Best use lightweight material like Silicone Impregnated Nylon



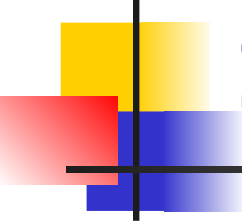


Sleep System

- Sleeping Bags
 - Synthetic or Down?
 - Down



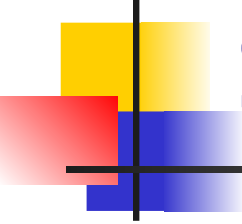
- Lighter weight
- More Compressible
- Feel and Warmth
- Does not insulate when wet
- Loft doesn't last as long
- Expensive
- Requires special care
- Fill rating (quality) 600-900 fill



Sleep System

- Synthetic
 - Slightly heavier
 - Slightly bulkier
 - Works even when wet
 - Does not lose loft as fast
 - Relatively cheaper
 - Easy to maintain
 - Different types of synthetics
 - Polarguard HV/3D/Delta, Holofil I/II, Primaloft 1/2, Qualofill, Microlite, Thermolite, etc

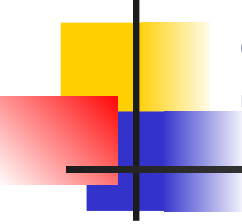




Sleep System

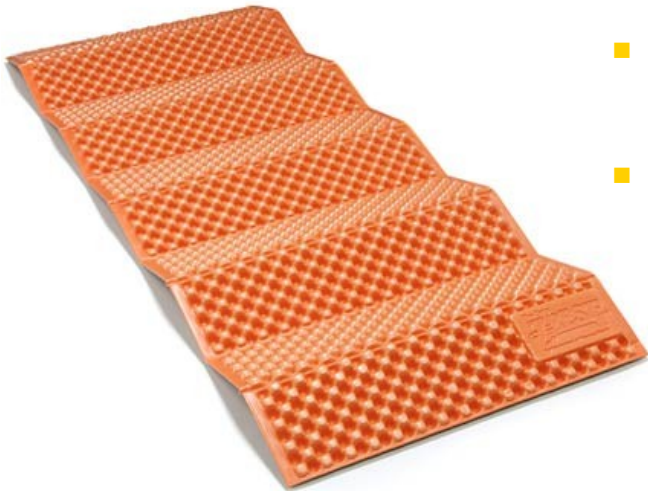
- Sleeping Pad
 - Primary purpose for insulation
 - Come in various weights, lengths, thicknesses, and widths
 - Inflatable
 - Comfortable
 - Self inflating
 - Somewhat heavy
 - More expensive
 - Can pop in backcountry





Sleep System

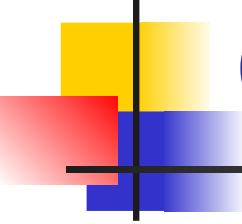
- Rigid
 - Lightweight
 - Fairly comfortable
 - Cheaper
 - Durable and can double as a sitting surface
 - Can serve as a frame or padding for backpack
 - Sometimes bulkier



Clothing

- General rules about clothing
 - No cotton (with exception of dry, hot hiking)
 - Use the layer system
 - Always have 'something' dry to change into
 - While extremely sexy, the scout uniform is not the best choice for a backpacking trek
 - Extra clothes should be packed in a waterproof place (Ziploc bags or stuff





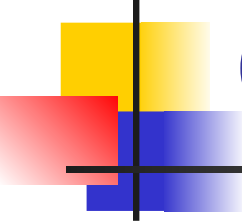
Clothing

- Rain Gear

- Rain Jacket/Pants

- Outer shell of layering system
 - Waterproof/Breathable best material
 - Gore-Tex not necessarily best for backpacking
 - Lightweight jackets available
 - Make sure not to stow in stuff sack or pocket
 - Core vents, pit zips, best for ventilation
 - Substitute for a wind layer also





Clothing

- The umbrella

- Extremely valuable piece of rain gear
- Can keep a torrential downpour out while not having to put on any extra clothes
- Fast to get out
- Lightweight
- Temporary shelter
- Can also serve as shade and relief from heat

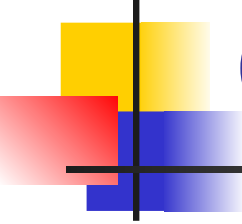


Clothing

- Soft Shells



- Designed like rain gear
- Not waterproof but water resistant
- Allows for better breathability\
- Windproof
- Can be extremely lightweight
- Can be a good substitute for pants



Clothing

- Thermal Layers

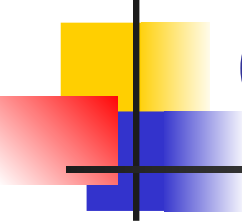
- Fleece

- Warm, especially under a windproof layer
 - Will keep you warm even when wet
 - Can be very packable and lightweight
 - Widely used
 - Micro, 100, 200, and 300 weight

- Wool

- Not used as much anymore but making a come back





Clothing

- Insulated Parkas

- Gaining popularity
- Filled with either synthetic or down fill
- Can be very lightweight and compressible
- Windproof
- Can be very warm depending on amount of fill



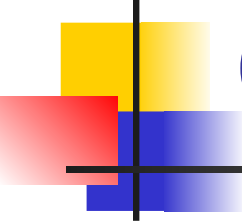
Clothing

- Shirts

- Convertible 'Safari Style' Shirts

- 1 shirt is doubles as short and long sleeve
 - Has lots of storage space
 - Has vents and pit zips
 - Generally heavier than a short and long sleeve coolmax shirt
 - Expensive



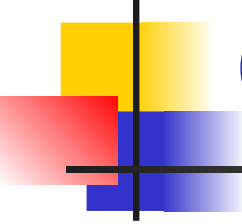


Clothing

■ T-Shirts



- Coolmax or similar material
- Lightweight
- Wicks and dries fast
- Relatively Cheap (the one pictured is about \$7)
- Usually no pockets



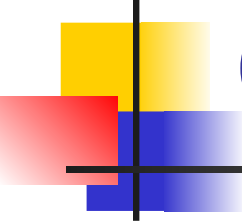
Clothing

- Bottoms

- Pants/Shorts



- Can vary from Target warmups to trekker pants
 - Should be synthetic
 - Pockets good
 - Built in belt good
 - Zippers on cuffs or sides good for putting on quickly

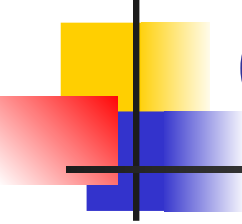


Clothing

- Zipoffs

- Same features as trekker pants except convertible
- Convenient and dual functional
- Shorts can be very short
- Make sure legs have zipper cuffs to put on over boots





Clothing



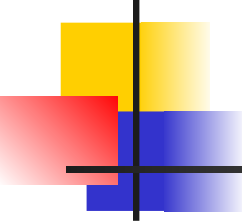
- Tights

- Lightweight
- Warm
- Wicking
- Prevents chaffing
- Can be used as underwear
- Not the best for stopping at the gas station on the way back

Clothing



- Underwear
 - Cotton and boxer designs can promote chaffing
 - Lightweight synthetics ideal but retain stench
 - Can double as shorts when shorts are wet
 - Some pants/shorts have built in underwear
 - Long underwear can be used as a thermal layer and for sleep clothes

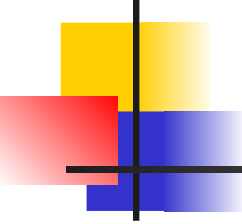


Footwear

■ Boots

- Always been the standard
- Usually leather but can be fabric also
- Can use waterproof membrane
- Heavy
- Expensive
- Offers limited ankle protection
- Can put stress on ankles and knees



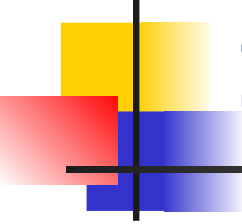


Footwear

■ Shoes

- Many outdoor specific shoes
- Mostly trail runners
- Very lightweight
- Quick drying
- Waterproof or breathable
- Cheaper
- Comfortable



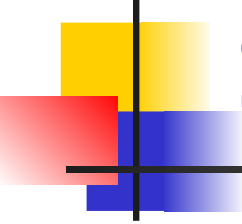


Socks



- Standard is the double layer
 - Thin liner sock to rub against thick wool sock
 - Prevents blisters
 - Some liners stink resistant
 - Hot
 - Makes for a larger shoes size

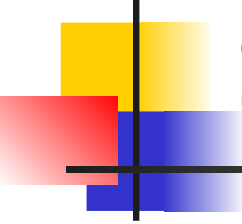




Socks

- Double layer running sock
 - Thin like a normal sock
 - Same blister preventing qualities
 - Wicks well
 - Cooler
 - Doesn't last as long
 - Fairly expensive

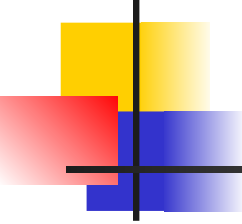




Socks



- Single Layer
 - Wicks well
 - Comfortable
 - Doesn't have blister preventing qualities

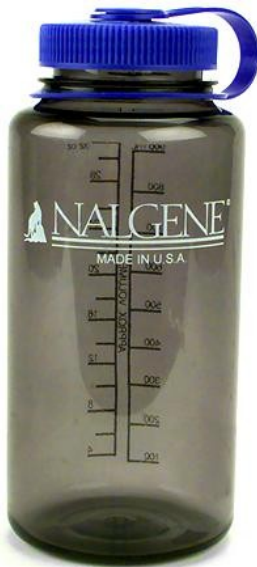


Hats

- Necessary for high altitude
- Wide brimmed or baseball
- Good for keeping sun off neck and ears
- Can also serve as a rain break
- Cotton ok for hats



Hydration



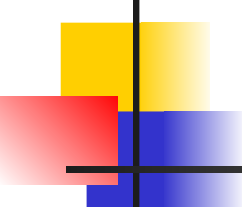
- Water Bottles
 - Nalgenes nearly indestructible
 - Have measurements for cooking
 - Filters fit around opening
 - Slightly heavy
 - Used coke bottles work well and disposable

Hydration

■ Hydration Systems

- Camelbak, Platypus, Ultimate, MSR, etc
- Drink on demand
- Keeps water cooler
- Recently have become very durable
- Can be kept closer to center of gravity in pack
- Filters don't fit well on them
- Harder to clean
- Need to be kept in a waterproof liner (trashbag) just in case





Eating Utensils

- Bowl and spoon



- No forks, knives, or plates
- Can be lexan, metal, or just plastic
- Plastic lightest weight and doesn't transfer heat
- If planning on using spoon for cooking then use metal
- Small pot can double for bowl for small groups
- Use water bottle in place of sierra cup



Electronics

- Anything that uses batteries can never be relied on and is extra weight
 - Flashlights
 - Headlamps best choice
 - LED lamps good choice for backpacking
 - Very long battery life (100+ hrs)
 - Infinite bulb life
 - Lightweight
 - Doesn't washout night vision
 - Not long range light
 - Not a true color light



Electronics



- Halogen lamps
 - Bright and long range
 - Short battery life (3 > hrs)
 - Heavier
 - Limited bulb life

- GPS

- Excellent navigation and logistic tool
- Moving map great feature
- NEVER a substitute for map/compass and related skills
- Limited battery life and moderately heavy



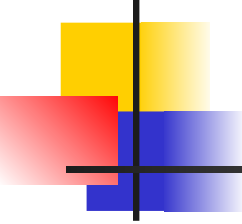
Electronics



- Cell phone
 - Good safety tool
 - Becoming light weight
 - Not to be relied on
 - Not to be used except for emergencies and planned usages

Altimeters

- Useful navigation and weather tool
- Expensive



Electronics

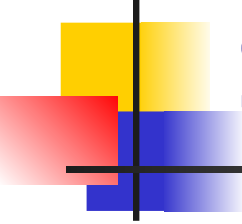
- Cameras
 - Disposable cameras excellent and lightweight
 - Digital cameras light and take many pictures
 - SLRs professional quality but heavy
- Watch
 - Take it or leave it
 - Nice for cooking and useful for first aid also
- Music devices
 - Take 'em or leave 'em
 - Can be heavy and take batteries
 - Easy to lose

Stuff

■ Trekking Poles

- Good for uphill and downhill stability
- Can be used for tent poles
- Takes some strain off the knees
- Can be tiring on the arms
- Not useful on flat lands
- Heavy to carry



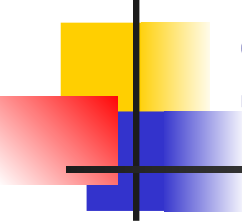


Stuff

- Stuff Sacks



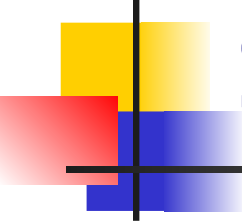
- Giant liner good for waterproofing pack (compactor bags work well also)
- Helps organize pack
- Can compress bulky items
- Can double as bear bags



Stuff

- Bandanas
 - 1000 uses and virtually weightless
 - Sweat/snot rag
 - Sling/bandage
 - Can be used as a filter
 - Towel
 - Sun shade
 - Neck cooler
 - Gaiter

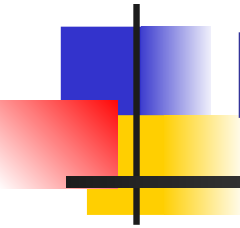




Stuff

- Reading material
 - Magazines lightest, most disposable, flammable
 - Books can be heavy
- Journal
 - Pen and paper nice for some also good to have in emergencies
- Camp Chair
 - Crazy creeks very comfortable but heavy
- Hygiene Kit
 - Toothbrush, lip balm, no deodorant





Divide and Conquer

Gear Heads Unite

Shared Gear

That's Tooth**paste**, not
Tooth**brush**!



- Small knife
 - Multitools generally unnecessary
 - Be careful (trust me I know)
 - No hatchets, axes, saws, projectiles unless doing trail work
- Purell
- Toothpaste
- Sunscreen/Insect repellent
- Biodegradable soap
- First Aid Kit
- Repair Kit (Duct Tape, sewing needle, floss)

Crew Gear

■ Stoves

- Always carry both matches and a lighter in stove bag



■ Multifuel

- Use white gas unless unavailable
- Refillable
- Burns well at all temperatures and altitudes
- Field Serviceable
- Heavier
- Expensive
- Needs occasional maintenance



Crew Gear

■ Canister

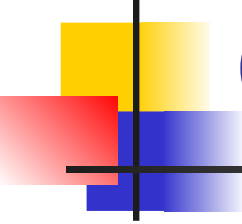
- Small, lightweight
- Cheaper
- Simmers well
- No pumping
- Hard to tell how full canisters are and not refillable
- Can be less stable than multifuels
- Doesn't burn quite as well at cold temperatures



Crew Gear



- Purifiers
 - Chemical Purifiers are inexpensive
 - Lightweight
 - Take some time to activate
 - Iodine (polar pure) doesn't always kill cryptosporidium
 - Not for very long term use
 - Limited supply



Crew Gear

■ Filters

- Instant filtration
- Two can purify an entire crew in 30 min.
- Filters most nasties out
- Pretty much unlimited use for a trip
- Heavy
- Expensive
- Can clog in field (paper filters not field serviceable)



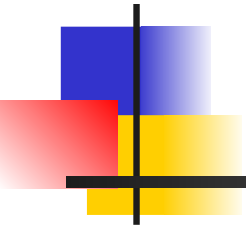


Crew Gear



- Cooking Utensils
 - Pot big enough for crew
 - Ladle
- Bear Bags
 - Severable burlap or mesh bags
 - 1 water proof liner for personal bag
 - 2 ropes (50 ft)
 - Optional carabineers
- Dining fly (if necessary)
- Navigation materials
 - Map, compass, guidebook
- Toilet paper and trowel





Get out There!
